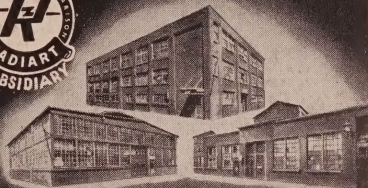


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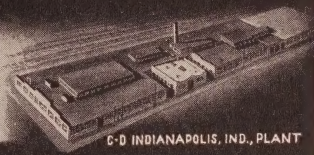
C-D PROVIDENCE, R.I., PLANT



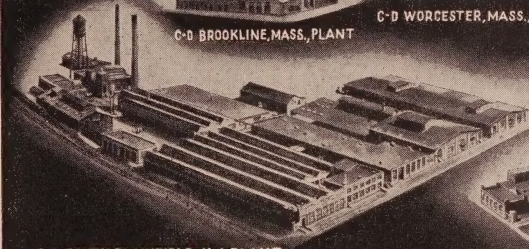
C-D BROOKLINE, MASS., PLANT



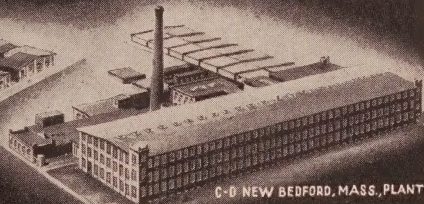
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No. 11

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VARIABLE-OUTPUT, VOLTAGE-REGULATED D. C. POWER SUPPLY

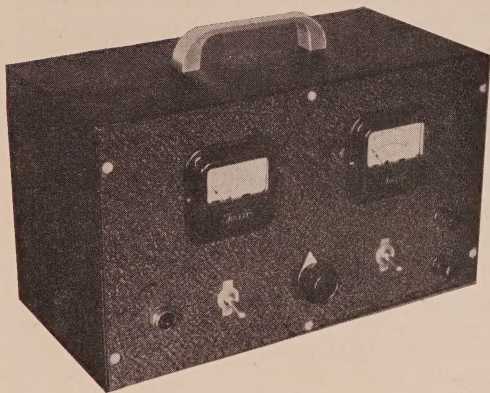


Fig. 1. Experimenter's Complete Voltage-Regulated D. C. Power Supply. The unit is entirely self-contained and is provided with d. c. output voltmeter and milliammeter. Voltage is variable between 175 and 300 volts. Maximum output current is 110 milliamperes. See Fig. 3 for identification of components on the front panel.

Experimenters with electronic circuits of all kinds are in need constantly of d. c. voltages of various values. For best stability of the experimental circuits, the d. c. voltages supplied must be regulated automatically by the power supply to prevent undesirable voltage shifts under varying load conditions. A voltage-regulated d. c. power supply with smooth, continuously variable output meets this requirement.

This article describes a self-contained voltage-regulated power supply which is simple enough to be assembled within a few hours by any radio technician. The d. c. output voltage which it supplies is continuously variable from 175 to 300 volts. At 175 volts, the maximum current which may be drawn from the unit is 110 milliamperes; at 300 volts, 60 milliamperes. Two self-con-

tained meters — a d. c. output voltmeter and d. c. output milliammeter — give a steady picture of load conditions and release regular shop meters for other uses. Single-knob control of output voltage is provided. The unit is comparatively light in weight and is inexpensive.

Complete Circuit

The four-tube circuit employed in the voltage-regulated power supply is given in Figure 2. This circuit is similar to one described in the article **Voltage-Regulated Power Supplies** which appeared in the June, 1949, issue of the C-D CAPACITOR. This unit has been thoroughly tested and is recommended to the reader.

Automatic voltage regulation is obtained by means of the 6B4-G, 6SJ7,

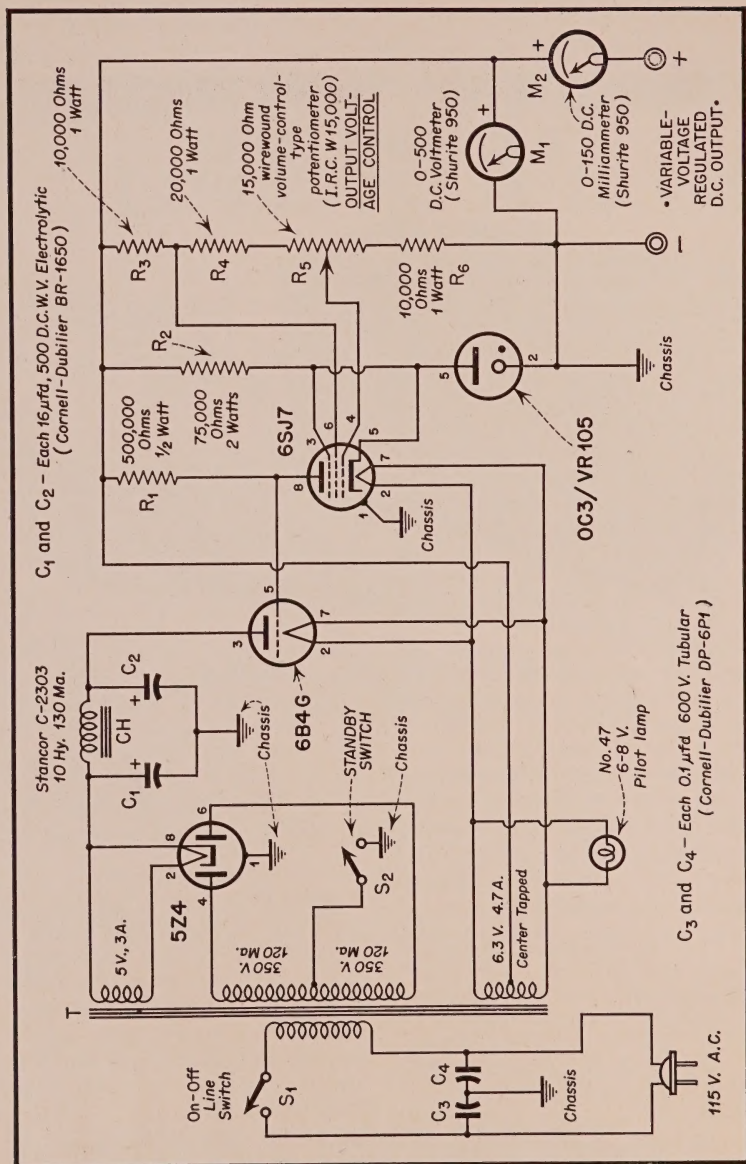


Fig. 2.

and 0C3/VR105 tubes. The 5Z4 rectifier tube supplies plenty of current. The operating theory of this type of circuit was covered in the article referred to in the preceding paragraph and will not be repeated here. The power transformer, T, is a 120-milliamper unit which is husky enough for most experimental work. Readers desiring more current output can use a transformer having a higher current and a heavier rectifier rating.

Two control switches are provided. S_1 is the main power-line ON-OFF switch. S_2 is connected in the B-minus high-voltage lead and is used to interrupt the high-voltage d. c. output without disabling the tube heaters. This standby switch saves the time which ordinarily would be taken for the tubes to come back up to operating temperature should the high voltage be interrupted by switching off S_1 .

Adequate filtration for most powered equipment, such as small oscillators, transmitter stages, receivers, amplifiers, control devices, etc., is provided by choke CH and capacitors C_1 and C_2 . The line bypass capacitors, C_3 and C_4 , reduce line noise pickup and minimize hum in equipment operated from the power supply. These capacitors are important to trouble-free operation and should not be omitted from the circuit.

The 15,000-ohm wirewound volume-control-type potentiometer, R_s , varies the bias voltage of the 6SJ7 tube and consequently the d. c. output voltage of the power supply. This is the sole output control, and no other adjustments nor settings are required. Do not use a composition potentiometer in this position.

D. C. output voltage is indicated continuously by the 0-500 d. c. voltmeter, M_1 . When the power supply is actually driving an external circuit, the current drawn by the circuit is indicated continuously by the 0-150 d. c. milliammeter, M_2 . These meters give the operator a continual check on what voltage and how much current are being supplied to the powered apparatus. Inexpensive 2½-inch-square Shurite meters have been used in this power supply and are shown in the illustrations, but the builder may use any comparable meters which he may have on hand. For example, a 0-1 d. c. milliammeter, which is a stock item with most experimenters (internal resistance of 105 ohms), can be converted into the 0-150 milliammeter by connecting a 0.7-ohm resistor in parallel with it. Similarly, a 0-1 d. c. milliammeter may be converted into the 0-500 voltmeter by connecting a ½-megohm resistor in series with it. This voltmeter will have a resistance of 1,000 ohms per volt.

The pilot light gives continuous warning that the power supply is in operation (that is, when switch S_1 is closed). While the voltmeter will show whether or not output voltage is present at the output terminals, the pilot light is a vivid reminder that the power supply is ready for business.

Constructional Details

Figure 1 shows an external view of the completed power supply unit which is built in a standard metal radio utility box 12" long, 7" high, and 6" deep. The carrying handle is obtainable at hardware or ten-cent stores as a drawer pull.

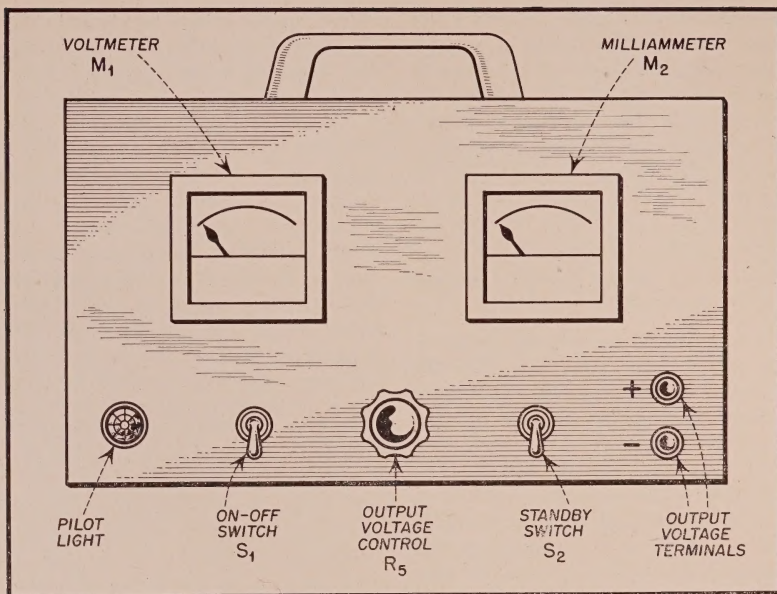


Fig. 3.

No chassis is employed. The various parts are bolted directly to the front and two side panels of the box. A large rectangular opening is cut in the rear panel and is covered with metal screen or perforated metal sheet to provide free circulation of air inside the box.

The layout sketch, Figure 3, identifies the various components seen on the front panel in the photograph, Figure 1. This arrangement proved to be the most convenient for easy operation. However, an individual builder may follow his own desires regarding layout.

The various fixed resistors (R_1 , R_2 , R_3 , R_4 , R_5) are supported by insulated terminal strips to which their pig-

tails are soldered. So are capacitors C_1 , C_2 , C_3 , and C_4 . Spare terminals on the 5Z4, 6B4-G, and VR105 sockets may be used as tie points in wiring. However, do not use terminals 3 and 7 of the VR105 socket for this purpose, since these terminals are connected together inside the tube.

The pilot light socket and mounting bracket must be of good quality and well insulated, since the 6.3-volt transformer winding which supplies the pilot light also is connected to the 6B4-G filament which is a high-voltage point.

Both the power transformer (T) and the filter choke (CH) must be fastened solidly to the panels of the enclosing box with large bolts to pre-

vent vibration. Mount the tube sockets on metal or ceramic pillars to keep their contacts well away from the metal panels.

Wiring is not critical, since there is no danger of interaction in the power supply circuit. The careful precautions which attend the wiring of r. f. and a. f. apparatus are not necessary in the construction of d. c. power supply equipment. Use heavy, flexible, insulated hookup wire for all connections. A neat job can be done by running all of the leads in one or more cables. When making a "chassis ground" connection, use a soldering lug bolted to a brightly-cleaned area of the panel. Connect all separate ground points together by means of a length of No. 14 solid, bare wire. Make all connections mechanically tight before soldering. Use rosin core solder, but no other flux of any kind.

The positive and negative output voltage terminal posts must be insulated, by means of bakelite or fiber shoulder-type washers, from the metal front panel through which their screws pass. Only insulated-head binding posts should be used, in order to avoid electric shock hazard.

Bat-handle toggle switches are specified for S_1 and S_2 for ease of manipulation. The long handles of these switches give a firm and sure finger grip. Use a pointer-type output control knob, for potentiometer R_s , as shown in Figures 1 and 3. The pointer position gives a good visual check of the relative level of output voltage when the standby switch is in its OFF position and the voltmeter accordingly is not reading. It also provides addi-

tional safety in case the operator neglects to consult the voltmeter.

Safety Note

All power supplies are dangerous. The reader is cautioned to be careful when making connections between the power unit described in this article and external apparatus.

A good rule is always to switch off the standby switch, S_2 , and turn potentiometer R_s to its lowest-voltage position before making any connections to the output binding posts.

Be sure that switch S_2 is switched off and R_s set to its lowest-voltage position before closing the ON-OFF power-line switch, S_1 . After allowing about 1 minute for the tubes to come up to normal operating temperature, close switch S_2 and advance potentiometer R_s until the output voltmeter indicates the desired voltage.

NOTICE TO TRADERS

Owing to the overwhelming number of sale-or-trade ads received, we regret the delay in publishing many of them in these columns due to the number of pages normally devoted to this section.

Therefore, we ask your kind indulgence in this matter by notifying us if you have disposed of the articles, etc., before the ad is published in order to preclude against any disappointment on the part of those answering your ad. Please give date the ad was submitted when writing.

Furthermore, if you find that your ad does not appear in the Trading Post within two months, kindly re-submit your ad. All ads are published in the order they are received and are automatically dropped after two months as being obsolete.

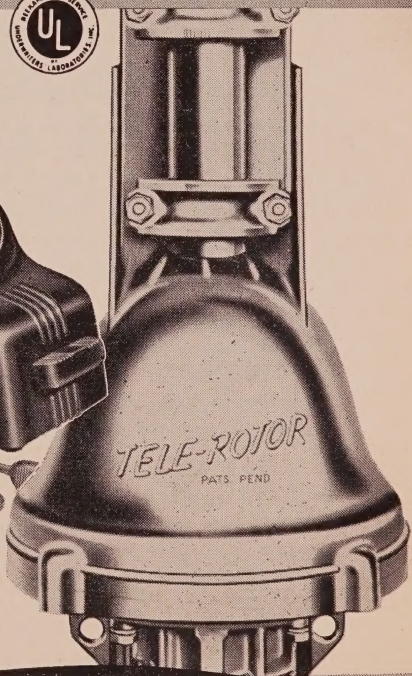
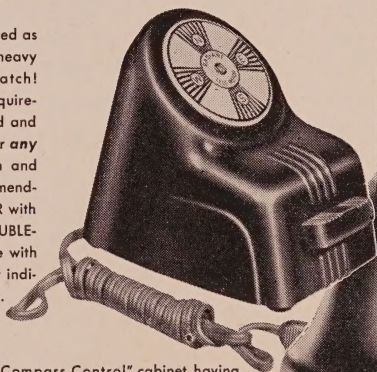
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Tested... proven... and accepted as the outstanding rotator... this heavy duty TELE-ROTOR has no match! Powerful beyond any normal requirement... sturdy enough to hold and turn any TV antenna array under *any* weather conditions. Servicemen and dealers everywhere are recommending the heavy duty TELE-ROTOR with assurance of dependable TROUBLE-FREE performance! Complete with handsome control cabinet that indicates antenna position instantly.

Model TR-2 . . . rotator with "Compass Control" cabinet having illuminated "perfect pattern" dial (Uses 8 wire cable) \$44.95

Model TR-1 . . . rotator and control cabinet with end of rotation light (Uses 4 wire cable) \$39.95



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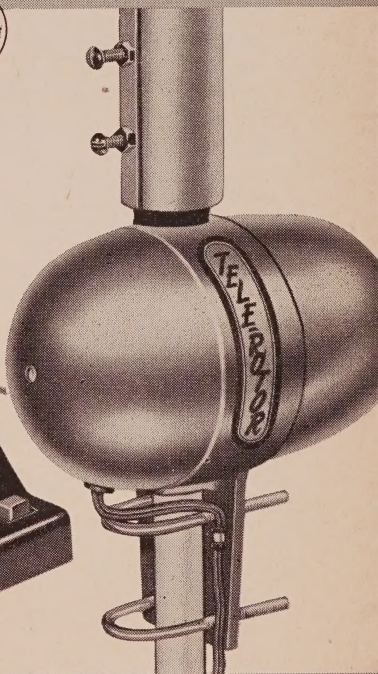
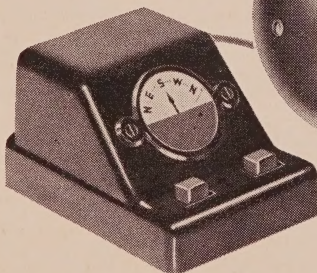


Here is the new standard TELE-ROTOR for all average installations! Featuring the ALL IN LINE design . . . with true in-line thrust between antenna and mast — the $\frac{3}{4}$ " STEEL shaft rotates on a case hardened steel ball. In-line reamed oilless bearings keep the shaft in perfect alignment and offer smooth trouble-free rotation and performance.

NOW — Powered by the same husky motor that has proven its superiority in the heavy duty TELE-ROTOR . . . You can depend on this easily installed unit to perform accurately and dependably.

Model 501-A rotator with control cabinet having end of rotation light. Light flashes every 7.2° showing antenna is turning. (Uses 5 wire cable) \$34.95

Model 502-A rotator with control cabinet having indicating meter for "hairline" tuning (Uses 5 wire cable) \$44.95



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THE RADIART CORPORATION CLEVELAND 2, OHIO





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These columns are open only to those who have a legitimate WANTED, SELL, or SWAP proposition to offer. The Cornell-Dubilier Electric Corp. reserves the right to edit advertisements submitted, and to refuse to run any which may be considered unsuitable. We shall endeavor to restrict the ads to legitimate offers but cannot assume any responsibility for the transaction involved.

Please limit your ad to a maximum of 40 words, including name and address. Advertisements will be run as promptly as space limitations permit.

All ads are published in the order received, but those held over two issues are discarded. Every effort will be made to include your ad either in the issue being prepared or the succeeding number, but will be automatically dropped thereafter.

FOR SALE—Vomax 900 Multimeter; Weston 777 tube checker; Precision 200 signal tracer; Crystalliner signal gen.; over 100 tubes in orig. cartons and load of misc. parts. All A-1 condition for \$125 cash. J. Dougherty, 38, Chestnut St., Hicksville, L. I., N. Y.

FOR SALE—Supreme signal generator; Supreme tube tester; Feiler sig. tracer; EMC V.O.M., plus Sam's Folders, etc. Ask for bargain price for all. Louis Vargo, 529 R.R. St., Windber, Pa.

TRADE OR SELL—RCA wire recorder, complete with modified "secretarial" circuit, seldom used. Also have four RMS TV boosters. What have you to trade? Maduell, P.O. Box 476, New Orleans, La.

WANTED—Used radios, any condition with or without cabinets. Please state price. Francis C. Schmidtzsky, 514 West San Antonio St., Fredericksburg, Texas.

FOR SALE OR TRADE—Wilcox-Gay radio, recorder, and playback, A-70 console model, \$50 fob; G.I. heavy duty two-speed motor and turntable, \$10; Brush PL-20 pick-up, \$20; 8" speaker and baffle, \$7. Want tape or wire recorder. John Nowak, 33 Parker Ave., Passaic, N. J.

FOR SALE—Weston No. 507 antenna current meter 0-2 amps, RF thermocouple type, \$5. Also Western Electric dynamic microphone, \$30, perfect condition. Earl Cox, 3625 Euclid Ave., Berwyn, Ill.

SELL OR SWAP—(2) German AEG Super 452 Bw, Radios. (1) Graetz 61B1, (2) Siemens 12GW, table model with tubes. Eigentum, Phillips, Wehrmacht tubes, also scope and trans. Want Riders 12, 16, up, or test inst. Wm. F. O'Brien, 3928 1/2 S. Harvard Bl., Los Angeles 37, Calif.

SELL OR TRADE—Two BC 906 freq. meters in original wood cartons; four excellent Coyne radio books and Cooke's Mathematics. Will trade for scope or Rider's Manuals, or best offer. T. L. Powell, 57 So. Lafayette St., Mobile, Ala.

SELL OR SWAP—Hallicrafter SX28 with Jensen Console speaker. Want Rider Manuals for cash. Frank Jaye, 176 Jackson Ave., Jersey City 5, N. J.

FOR SALE—Webster record changers, models 156-1 and 133-1, both in excellent condition with original unused cartridges, \$37.50, plus express charges. A. H. Bennett, Jr., 27 North Avenue, Hagerstown, Maryland.

FOR SALE—Supreme 504-B tester, Feiler TS-3 electronic stethoscope, few tubes, output transformers, photofact folders, various books, two complete appliance service courses, other items. First \$200 cash takes all. Ray's Radio and Appliance Service, Box 1, Howard, Colo.

WANTED—Hallicrafter or similar make communications receiver in good cond. Paul Kuzmak, 67 Buckland Road, Wethersfield 9, Conn.

WANTED—Rider's Manuals. Full set. Give number of each manual and price. John H. McHocko, 205 S. 11th St., Easton, Pa.

FOR SALE—20 watt phono top amplifier with built in superhet tuner, 12" spkr. in bass reflex cabinet, wire recorder unit in separate cabinet. All in good condition. Paid over \$250, sell all for \$75 fob. E. St. Arnaud, 24 Arch St., Meriden, Conn.

TRADE—Have a 6" metal lathe that I would like to trade for radio test instruments, such as tube tester, VTVM meter, sig. gen., or what have you? Greggs Repair Shop, 701 North Garfield, Chanute, Kans.

FOR SALE—Radiotechnic Lab. Model 120 revamped to model 130, tube and battery tester in perfect working order, clean case, \$35. Want Riders 1, 3, 13. Melvin Kihlmeier, 270 Duke St., Ephrata, Pa.

FOR SALE—Riders Manuals, vols. 1 thru 13, good condition, \$100; VTVM, like new, \$28. W. Taft Davis, 204½ N. Driver Ave., Durham, N. C.

FOR SALE—Hallicrafters radio receiver, model SX-62, purchased new in April, 1950, new condition, \$200; NRI sig. gen., \$30. W. Henry Abbitt, c/o Virginia Electric and Power Company, Clifton Forge, Virginia.

WANTED—Rider's Manuals, radio and television books, meters, or test equipment. State price. Frank's Radio Service, 1576 Greene Ave., Brooklyn 27, N. Y.

SELL OR SWAP—BC-312D and BC-314D, both with 8-ohm output, wired for external power supply. Both for \$80 or swap for professional microgroove playback equipment, or good 35mm camera. J. M. Gottschalk, 37 Penarth Rd., Cynwyd, Pa.

WANTED—Good, accurately calibrated, grid-dip meter. Major Lloyd D. Colvin, K2CC, Officers Dept. T.S.S., Fort Monmouth, N. J.

TRADE—Recent DeForest's Training, Inc., Television-Radio-Electronics Course complete with examinations (less kit materials) for small multimeter. Harry Denison, 21 South 4th St., Columbia, Pa.

SELL OR TRADE—Theatre open channel rack, with base. 83" height, 10 blank 19" panels, including voltage and power amplifiers, 224A, 56, 2-245, 280, 2-250, 2-281 tubes. Accept cash offer or model railroad equipment. Delbert Henninger, 246 Jefferson St., Tiffin 2, Ohio.

FOR SALE—Lafayette "Professional 9" receiver, 550kc to 31mc, phono input, factory wired, good condition. Best offer. George T. Andrews, R.D. 2, Shelby, Ohio.

SELL OR TRADE—R.C.P. dynoptimum portable tube tester, model 322, like new, for typewriter, photo enlarger, or what? Reynolds Radio and TV, 108 W. Peoria, Paola, Kansas.

SWAP—A DeMaurier telescope, complete with carrying case and tripod. Exchange for a 20,000 ohm per volt voltmeter. George McNally, 41-43 39th Pl., Long Island City 4, N. Y.

FOR SALE—RCA Model 167-B and Jackson Model 641 signal generators. Both like new and have not been used. Will accept best offer. Hugo Oliver, 102 West Broadway, Central Nyack, N. Y.

FOR SALE—Complete "Shack" 150 watt phone-cw rig, xtal mike. Send for details. Mort Rosen, 1530 East 27 St., Brooklyn 29, N. Y.

WANTED—Instructograph complete including instruction book, a.c. model. Benjamin N. Weinfeld, 556 East 4th St., Brooklyn 18, New York.

FOR SALE—Rider's Manuals, vols. 6 to 11. \$25 for all six volumes, or best offer. I. L. Lambert, 1037 Oaklawn St. N. E., Grand Rapids 5, Michigan.

FOR SALE—RCA single speed record changer, \$7; 10 three tube a.c.-d.c. amplifiers w/tone control, less tubes, \$2 ea.; Simpson volt-ohmmeter, model 260, perfect, \$20. Sam N. Narefsky, 4031 48th St., Long Island City 4, N. Y.

SALE OR TRADE—Rider's Manuals Book No. 3, 4, 5, 6, 8, 10, 13, 14, value \$65. also have tube checker and multimeter. Sell or swap for 10" electric adjustable table saw or 1941 Cadillac custom auto radio, or what have you? Edward W. Wojcik, 159 No. 6th, Newark 7, New Jersey.

FOR SALE—Feiler signal tracing stethoscope model TS-3, used only a few hours, \$30. About 30 copies of Radio News, 10 cents each. Knight 6 tube plastic model a.c.-d.c. superhet radio, ivory cabinet, \$15. Henry J. Richards, 6716 S. Parnell Ave., Chicago 21, Ill.

FOR SALE—Established Radio-Record Store and Service business. County seat, population, 25,000. Only radio or record store in town. Centrally located. All new test equipment last year, Riders, Sam's, complete parts, stock. Sell for inventory. Gake Radio Service, Madison, Nebraska.

FOR SALE—My up-to-date very complete Radio Service Shop equipment. It's all like new, none over three years old. Will sacrifice. Write or call. Harry Galewski, 155 W. 4, Winona, Minn.

SELL OR SWAP—Closing shop, have lots of new and used sets and parts, cameras, etc., under wholesale cost. Al Pratt, 1939 N. 18th St., Milwaukee, Wis.

FOR SALE—BC455-B receiver, range from 6 to 9.1 meg., good condition, \$5. J. R. Halverson, 600 Maycox Ave., Norfolk 5, Va.

FOR SALE OR TRADE—Meissner recorder, playback, and radio, model 9-1065, in perfect condition, \$75; S-20-R Hallicrafter; S-41-W Hallicrafter, both in good cond. Want 5" scope. Cranston Radio & T.V., 2112 Brown St., Flint 3, Mich.

SWAP—De wald FM tuner like new, for 6V bench power supply with voltmeter and ammeter. Rupert Freeman, 2108 33 Ave., Meridian, Miss.

FOR SALE—Hallicrafters television rec., 7 1/2" table model with metal cabinet, less than one year old, excellent cond., \$75. Albert C. Blevins, 880 Pike St., Charlestown, Indiana.

FOR SALE—Mark 2 complete, excellent, \$40; two thousand assorted resistors, 2 cents each; pair of 832A tubes, \$8 for both; mod. xfrm for PP6L6 Stancor 3868, \$2.50; 40 meter plug-in coils, Bud 5 prong ceramic. All items perfect. G. F. Gnandt, RFD 2, Wellington, Ohio.

FOR SALE—Famous RCA TRK-12 TV console, RF and IF, built-in FM rejection filter and telematch, asking \$175 fob. Rudy Kuehn, 655 Bryant Pl., Ridgefield, N. J.

TUBES WANTED—Send your list indicating details for my cash offer. B. N. Gensler, 136 Liberty St., New York 6, N. Y.

FOR SALE—Jewell No. 116 0-500-1000 volts d.c. volt meter \$6.95; Supreme No. 542 multimeter, \$14.95; Hickok AC51X analyzer and tube checker, \$24.95. Write for list of meters. Bud's Radio and Television Service, 5912 Hampton Ave., St. Louis, Mo.

FOR SALE—Supreme Model 542 VOM, 5,000 ohms/volt, \$11.50; Simpson Model 260 VOM, 4" meter, 20,000 ohms/volt, up to 5,000V a.c.-d.c., \$24.50 fob. Complete with instruction books and test leads. 2R. H. Ives, 663 Kempsville Rd., Norfolk 2, Va.

WANTED—Glass dial scale for Crosley console radio, Model 25AY. A. Adams, 719 Park Ave., Williamsport, Pa.

FOR SALE—Vomax 900, in A-1 condition, looks like new, complete with instruction booklet. First \$27.50 takes it (express extra). C. B. DeMunbrun, 1504 Hayes-St, Muskogee, Okla.

FOR SALE—Hallicrafter, SX25 and speaker, in excellent condition, shipped express collect, \$65. E. Fulkerson, Rt. 10, North Kansas City, Mo.

FOR SALE—Bogen 30 watt amplifier, complete, \$125; Remington .22 seven shot repeater bolt action rifle, like new, \$18; Spanish guitar, \$40. Or will trade for what have you? Paul P. Biniek, 39 Slope St., Plains, Pa.

FOR SALE—FM tuning unit, perfect. Highest offer will be accepted. Jack Kerin, 307 Howard St., Green Bay, Wis.

FOR SALE OR TRADE—Apex receiver, complete, good working order, model unknown. Also assortment of vacuum type tubes, Philco parts transformers, etc. Write for list. Phillip C. Haley, P.O. Box 21, Dunkirk, Indiana.

FOR SALE—Reliance 8 watt PA system, with mike and phone fader and tone control. Attractive steel case slides in back of baffle, making portable system. With 8" speaker and xtal mike. First \$27.50 takes it. Hugh Gregg, 5030 S. Workman Mill, Whittier, Calif.

SALE OR TRADE—Universal Univex 8mm movie camera with f-1.9 lens, uses any type single or double 8 black and white or color film. New condition with case, \$67. Want late model Harvey Wells Bandmaster Deluxe 2 to 80 meters. Jack's Radio Service, 111 West Hoffman Ave., Lindenhurst, N. Y.

FOR SALE—Precision Electronics Model 201 "Super Signal Tracer." Extra low capacity, polystyrene tipped vacuum tube probe, response from 20 CPS to 300 MC. Has 3 stage audio input channel and an a.c. volt-ohm-meter jack. In perfect condition, want \$22. Arnold M. Herman, 540 N. Lawndale Ave., Chicago 24, Ill.

SELL OR TRADE—"Viewtone" pre-war 7" TV (Dumont tube, mahogany cabinet, needs adjustment, alignment, \$35; Sarkes-Tarzan TV tuner, 3 tubes, \$7.50; Eico 5" scope, model 400, needs adjustment, \$20; Partially dismantled BC 1068, BC645. A. Nelson, 97 E. 3 St., N. Y. C.

WANTED—A good semi-pro. recording machine. No junk please. Hy White, c/o Roney Shows, Detroit Lakes, Minnesota.

SELL OR TRADE—Zenith automatic record changer with Cobra arm pre-amp included (Sam's No. 7 list this model), sell for \$25, or trade for test equip., or what have you? Harrows Radio, 20 Abramson Lane, Worcester, Mass.

SELL OR TRADE—Hamilton 20 watt portable public address system with 2 G.E. 12" speakers, like new, \$85; 5 station intercom system, \$25; Triplett appliance tester, \$20. J. C. Orlow, 1049 N. 70th St., Milwaukee 13, Wis.

SELL OR TRADE—Emerson 10" television model 614 or 637, \$119, or trade for 5" oscilloscope in new condition suitable for TV test work. Bob's Radio Service, 930 Valley St., Dayton, Ohio.

FOR SALE—Test equipment for radio and TV service; sweeps, RF generators, scopes, VOM, tube testers, sig. tracers. All in like new condition. Bargains. Frank J. Moch, 5908 S. Troy St., Chicago 29, Ill.

TRADE—One and two inch f-1.5 Wollensak telephoto lens, 16mm, and misc. radio parts. Want FM tuner, binoculars, camera, guns, or? (Mr.) Jean Blanton, Box 158, Dahlgren, Va.

FOR SALE—6 tube RCA 1947 model, like new, \$12.95; 5 tube home made radio, 1947, like new, \$10. Also radio magazines, books, and misc parts. A. Lago, 92 Andrew St., Bayonne, N. J.

FOR SALE—Copy of "Principles and Practice of Radio Servicing" by Hicks, only \$2. Leon Medler, 2109 Daly Ave., Bronx 60, New York.

WANTED—Used German Receiver in good condition. Kindly state details and price. Also give model No. Rudolph P. Meuser, 6025 Rising Sun Ave., Philadelphia, Pa.

FOR SALE—Tape magnetic recorder — Brush "Sound mirror" model BK401, in wonderful condition, with microphone, in beautiful cabinet. Make offer. Saul Dresner, 197 Clinton St., Brooklyn 2, N. Y.

BEST OFFER—Receives volume 1 and 3 Riders (N.U.) Manuals in good condition, FOB Cooper. Williamson Radio Service, Cooper, Texas.

FOR SALE—Brush Sound mirror BK 414, like new. Rev. R. S. Komp, Meridian, N. Y.

WANTED—1941 Chevrolet automobile radio in good condition. State price. Ben Cheskis, 2661 N. Napa St., Philadelphia 32, Pa.

FOR SALE—Precision signal generator, series E-200, with technical manual, like new. Best offer takes it. Henry Ward, 3758 N. Percy St., Philadelphia 40, Pa.

FOR SALE OR SWAP—5BP4 picture tube; 1-12 volt input dc dynamotor 250 and 500 volts output; two Mallory vibrapacks 6V 225 to 300V output at 100ma. Swap for movie films or BC459 or 696, or what have you in xmitters. Gerald Clouser, 4935 N. 26 St., Milwaukee 9, Wisconsin.

WANTED—Tools—hand and portable electric. Any kind any condition. Will pay cash or trade good radio books for them. N.Y.C. area preferred. John B. Underhill, 116 Sheriff St., N.Y.C. 2, N. Y.

WANTED—Leica camera. Have radio test equipment to trade. Mathew J. Duniphin, Box 1091, Wewoka, Okla.

WANTED—Oldsmobile 1939 custom radio. Sigmund Seloe, 281 Bradford St., Brooklyn 7, N. Y.

FOR SALE—Simpson model 215 VOMA in excellent condition, \$20; Fairchild 16mm movie camera ready to use with power-supply, \$30. Will pay express charges in U.S. G. C. Netherton, Jr., P. O. Box 7433, Asheville, North Carolina.

FOR SALE—HRO-Jr., like new, with power supply and coils covering the 160, 80, 40, 20, 10 meter bands. A bargain for only \$60 FOB Hamilton. Cloyd's Radio Shop, 454 So. 3rd St., Hamilton, Ohio.

FOR SALE—Home-made vacuum tube voltmeter, \$15; Supreme tube checker, model 85, \$20. Reinhardt's Radio and TV, 51 Thompson St., Ballston Spa, N. Y.

FOR SALE—Simpson 260 and Precision 200. Little used, instructions included. Will accept any reasonable offer. J. Brown, 1631 Walton Ave., N. Y. C. 52, N. Y.

SELL OR SWAP—General Industries 78 rpm changer-recorder unit, less cabinet. Has new Shure crystal cutter. Also Hallicrafters S-38, used one year. Any reasonable offer. H. Treiber, 205 Delaware Ave., Albany, N. Y.

TRADE—Sweep sig. gen.; 5" scope (working); television course, 25 lessons; and communications receiver. Want 10" TV or make offer. George Spoerl, 4102 N. Reese St., Philadelphia 40, Pa.

SWAP OR SELL—Oliver typewriter; good fishing rod and reel; communication receiver; type C earphones; Whitely muscle builder combination. Want ultra mikes and photo developing equip. Norman Lacroix, 21 Mavis St., Pawtucket, R. I.

FOR SALE—Sams Photofacts 1-62 with binders, \$40; Precision EV-10-S VTOM, \$35; Precision E-200-C, \$30; Zenith trans. portable, \$35; Superior model 450 tube tester, \$20. All A-1 shape. R. M. Johnson, 411 South 16th St., Wilmington, North Carolina.

SELL OR TRADE—Admiral 78 rpm record changer, holds 10 12" or 12 10" records; 5 vol. Applied Practical Radio by Coyne; Jensen speaker, model F8RS 8" electrodynamic. Make offer. Sterling Tucker, 1502 Conoga Street, Norfolk 6, Virginia.

SELL OR TRADE—Two like new 6 tube 2 band receivers, both for \$20. Want FM tuner. J. Mrochack, Rt. 4, Lapeer, Mich.

FOR SALE—Revere 1 hr. tape recorder, 5 tubes; Speco sig. tracer (Stac.) 4 tubes ac. Both complete with instructions. John Moy, Box 169, Canal Station, New York 13, N. Y.

FOR SALE—Hickok model 277X sig. gen., \$65. F. G. Sealy, Box 317, Broderick, California.

SELL OR SWAP—1944 to 1947 (incl.) QST in annual binders. Best offer. Rudolph F. Graf, 12 Harrison Ave., Brooklyn 11, New York.

WANTED—Riders manuals 18 to 20, and TV manuals. Also test instruments. A. Gallagher, 513 West 10 St., Erie, Pa.

SWAP—Want Hallcrafters S-38. Have a Golde 35mm projector to swap for a SX24 or SX25. Ted Nadeje, 5101 39th Ave., Sunnyside 4, Long Island, N. Y.

WANTED—Craftsman power tools, carpenter and plumber hand tools. Trade radio parts or cash. Victor Kozma, 1665 Stadium Ave., Bronx 6, N. Y.

SWAP—Hallcrafters S-38 receiver excellent condition, for Meisner 8C FM tuner in similar condition. T. H. Yaffe, 729 Montgomery St., Brooklyn 13, N. Y.

SWAP—25 cal. Japanese rifle, with sling and bayonet and scabbard. Want good battery eliminator, 110V ac. to 6V dc. Murray J. Smith, 216 Winnikee Ave., Poughkeepsie, N. Y.

WANTED—A used but complete Deforest training correspondence course or any other nationally known course. Also want all kinds of Radio Diagrams. William Kennedy Radio Repair, Box 258, N. Apollo, Pa.

TRADE—Electronics 1950 Annual Buyer's Guide for same for 1948 and 1949. James Gilbert, 719 Silver Spring Ave., Silver Spring, Maryland.

WANTED—SX42 or SX62. Give your cash price and condition. P. Boothroyd, 1500 Bergen Blvd., Ft. Lee, N. J.

FOR SALE—Several receiver tubes, all types; 1 watt insulated resistors; radio books; Supreme manuals; Radio Service Course by Gharardi; Mallory-Yanley Ency. I. W. Stubblebine, 140 S. 4th St., Reading, Pa.

FOR SALE—Garrard RC-60 intermix changer, has GE cartridge, with roger pre-amplifier, \$25 FOB. Hein Radio Service, 418 Gregory St., Rockford, Ill.

SELL OR TRADE—Motorola car radio No. 309, played less than 5 hrs., \$35. Want Burgess M-5 gasoline motor, or handie motor-tool. Milton Farber, 454 Ocean Ave., Jersey City 5, N. J.

FOR SALE OR TRADE—Federal photo-enlarger, No. 120 in A-1 condition, \$36. Or trade for radio test equip. Billy Jones RFD 2, Louisville, Tenn.

WANTED—Bargains in bulk recording wire approx .004", and 10" aluminum base recording disc blanks. Herbert Hoch, 418 E. 53 St., Brooklyn 3, N. Y.

WANTED—Airline chassis and speaker, mod. 93 BR-1201-A, serial No. above 9F 826400, in good condition. State rock-bottom price. H. C. Odell, R. 1, Box 1, Huntsville, Texas.

TRADE—BC-348-Q converted to ac. for press type camera, Graphic preferred. Holleys Radio Service, Box 336, Vaughn, New Mexico.

WANTED—Croname slide rule dial model PT-100 for use on Mallory Inductuner. E. N. Christner, 313 Crawford St., Middletown 19, Ohio.

WANTED—Rider Manuals, must be in perfect condition with all indexes — Cash, or will trade 16mm sound or silent films. Also sound 16mm films for sale. Charles Crank, 2119 Lyndhurst Ave., Baltimore 16, Md.

WANTED — Transmitting, special-purpose, and new receiving type tubes. B. N. Gensler, 136 Liberty St., New York 6, N. Y.

SWAP—Pair of Sytian Golden Hamsters for a crystal mike in good condition. James Cooper, Jr., 852 Albert St., Dickson City, Pa.

WANTED—Million test equipment in any shape; Philco 022 scope; Riders vol. 11. Will swap for other test or ham gear. Port television, 300 Main St., Port Washington, N. Y.

WANTED Piano accordion or trumpet in key of C, B, and A. Have to trade for any of the above, 7" Viewtone television set, wood clarinet. John Arnold, P.O. Box 84, Bluffs, Ill.

FOR SALE OR TRADE—PA system, Bogen E1620. Operates on 110V ac. or 6V dc., has record player on top, electro-voice mike, 2 university horns with drivers 18". Best offer takes it. Mescall Radio Sales and Service, 402 - 32nd St., Union City, N. J.

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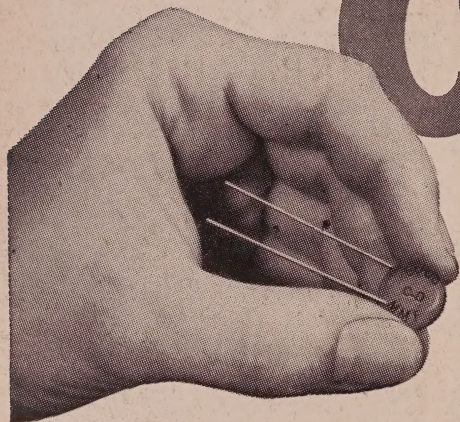
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